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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDWARD C. CARMAN, JR. and EDWARD C. CARMAN, III

Appeal 2009-002407¹
Application 10/081,273
Technology Center 3700

Decided:² July 22, 2009

Before TONI R. SCHEINER, DONALD ADAMS, and STEPHEN WALSH,
Administrative Patent Judges.

SCHEINER, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the rejection of claims 1-3, 6-10, 12-14, 17-20, 23-26, 28-30, and 33-41, all the claims remaining in the application. We have jurisdiction under 35 U.S.C. § 6(b).

¹ Heard July 7, 2009.

² The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

The invention is directed to a “multipurpose handle which can be used in a wide variety of applications . . . involving tools and appliances” (Spec. 4: 1-3), and which “distribut[es] forces and stress exerted by and on the hand and wrist to the forearm” (*id.* at 3: 25-26).

Claim 1 is representative of the subject matter on appeal:

1. A handle for one-handed ergonomic manipulation of a tool or the like, the tool being detachably connectible to the handle, comprising:
 - the handle having forward and rearward ends;
 - an attachment post at the forward end of the handle, the post having a first longitudinal axis;
 - a connector at the forward end of the post, constructed to releasably attach a tool or the like to the handle;
 - a grip fixed to the attachment post, the grip having a second longitudinal axis extending transverse to the first axis in a pistol-grip configuration;
 - a seat portion fixed to the grip and extending rearward therefrom to underlie the bottom of the user’s wrist when the grip is grasped without restraining side-to-side flexure of the wrist; and
 - a band-like, elongate brace integral with and extending from one side of the seat portion, the brace extending rearwardly and in a continuous helix that wraps progressively and, in cooperation with the seat portion, defines a substantially complete revolution about an open space to accommodate and surround the lower arm of the user, from the wrist to the rearward end of the device.

The Examiner rejected the claims as follows:

- Claims 1-3, 6-10, 12-14, 17-20, 23-26, 28-30, and 33-41 under 35 U.S.C. § 102(b) as anticipated by Stephens (US Patent 5,331,989, issued July 26, 1994).
- Claims 1, 18, 33, and 37 under 35 U.S.C. § 112, second paragraph, as indefinite.

We reverse.

ANTICIPATION

Issue

The dispositive issue raised by this rejection is whether Appellants have established that the Examiner erred in finding that Stephens describes an ergonomic handle with a band-like elongate brace extending in a continuous helix that, alone, or in cooperation with a wrist-supporting structure, defines a substantially complete revolution about an open space.

Findings of Fact

FF1 Independent claim 1 is directed to an ergonomic handle comprising an attachment post at the forward end of the handle; a connector at the forward end of the post, constructed to releasably attach a tool to the handle; a pistol grip fixed to the attachment post; a seat portion fixed to the grip and extending rearwardly to underlie the bottom of a user's wrist when the grip is grasped, without restraining side-to-side flexure of the wrist; and "a band-like, elongate brace integral with and extending from one side of the seat portion, the brace extending rearwardly and in a continuous helix that wraps progressively and, in cooperation with the seat portion, defines a substantially complete revolution about an open space to accommodate and surround the lower arm of the user, from the wrist to the rearward end of the device."

Independent claims 18 and 33 are similar to claim 1, except that neither claim requires a seat portion and the helical brace makes a "substantially complete revolution" from the grip to the rearward end of the device.

FF2 Figure 1a and 2 of Appellants' Specification, reproduced below, illustrate an embodiment that meets the limitations of claim 1:

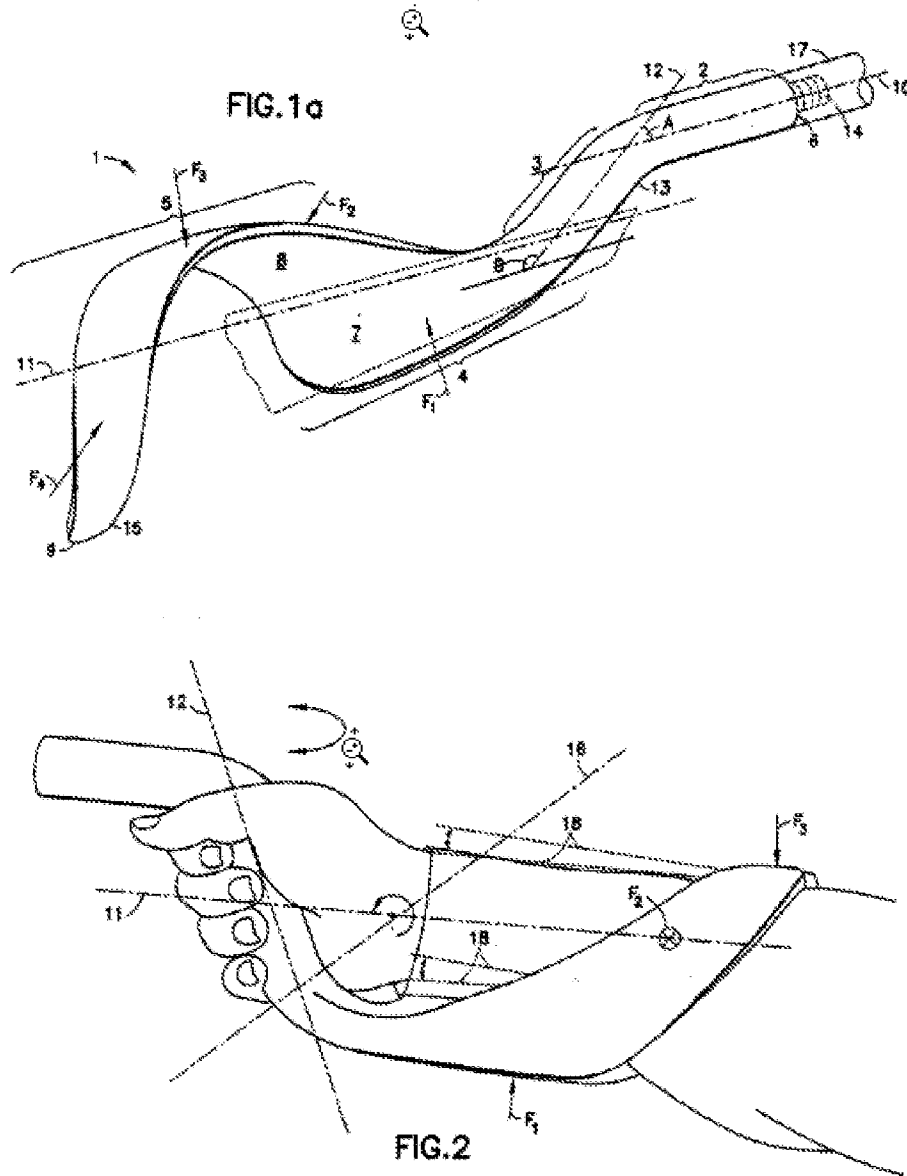


Figure 1a illustrates an embodiment of the claimed handle support, while Figure 2 illustrates the same embodiment as it appears on a user's arm. From forward end 6 to rearward end 9, the handle comprises attachment post 2, grip 3 (oriented at an angle A with respect to the longitudinal axis of

attachment post 2), a generally planar seat portion 4 which forms a contoured surface 7 for supporting the lower portion of the user's hand and wrist, and a rigid brace portion 5 having "a substantially helical form" (Spec. 6: 5 to 8: 5).

In use, the handle extends from attachment post 2 on forward end 6 in front of the user's hand to rearward end 9 near the elbow of the user. "An open area above the seat portion 4 accommodates the wrist joint of the user and permits a flexing of the joint from side to side" (*id.* at 7: 22-24), while helical brace 5 has "sufficient length to surround the arm over the top and on at least two sides" (*id.* at 8: 5-6).

FF3 Figure 4 of the Specification, reproduced immediately below, is a view from the forward end of the handle:

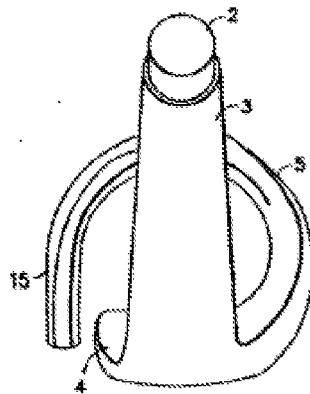


FIG. 4

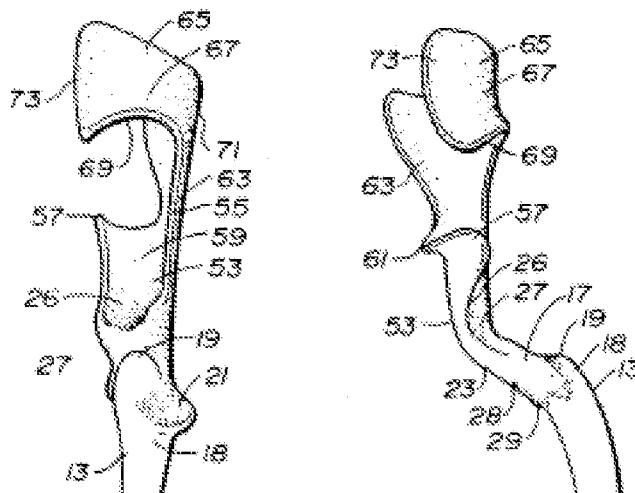
Figure 4 is a view from the forward end of the handle showing the "helix extend[ing] in a clockwise sweep starting at the inner side of the wrist" (Spec. 8: 26-27).

FF4 According to the Specification "a helix is generally associated with a cylindrical form, i.e., a straight line wrapped around a cylindrical

form, [but] the helix of this device, in the preferred embodiment, circumscribes a generally conical form in which the radius of curvature ‘r’ of the brace . . . diminishes from the rearward end” of the brace to the forward end and “defines an open area in the general shape of a cone” (Spec. 8: 10-17).

FF5 Stephens describes a crutch with a handgrip and an elongated cuff integrally joined to and extending from the rearward end of the handgrip. “The elongated cuff has a lower forearm support portion and an upper forearm engaging portion which provides alignment to the forearm and wrist of the user” (Stephens, col. 2, ll. 27-33).

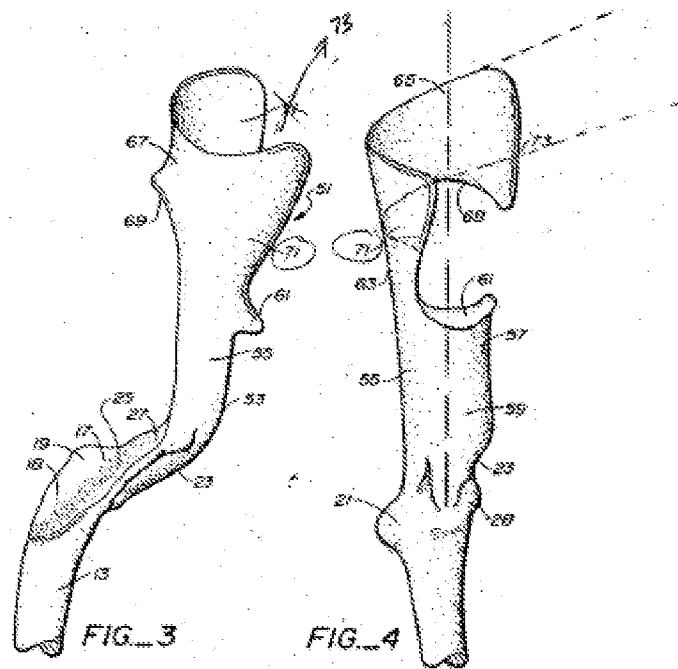
FF6 Stephens’ Figures 2 (on the left) and 5 (on the right), portions of which are reproduced below, show front and side elevational views of the elongated cuff of a right-handed version of Stephens’ crutch:



Stephens’s Figures 2 and 5 show the elongated cuff with lower forearm support portion 53 joined to the rearward end of handgrip 17. Lower forearm support portion 53 has a an outer wall 57, a rear wall 59, and an inner wall 55, which form a lower support channel and provide an opening

for forward movement of the user's hand and lower forearm, while the upper forearm is restrained by upper forearm-engaging portion 65 of the cuff (Stephens, col. 4, ll. 50-64). Portion 65, which has an opening formed by the edges of inner wall 71, forward restraining portion 67, and outer wall 73, is connected to lower support portion 53 by connecting portion 63 of the cuff (*id.* at col. 5, ll. 1-11).

FF7 Stephens' Figures 3 and 4, as marked up by the Examiner (dashed lines),³ reproduced below, show additional elevational views of the elongated cuff:



Stephens' Figure 3 shows a side elevational view of the inner side of the elongated cuff, while Figure 5 shows a rear elevational view.

³ The Examiner's marked up version of Stephens' Figures 3 and 4 were attached to the non-final Office Action mailed March 17, 2006, and also to the Examiner's Answer.

FF8 The Examiner finds that elements 63 and 65 of Stephens' elongated cuff form "a band-like elongate brace . . . extending in a continuous helix . . . that wraps progressively and, in cooperation with . . . [elements] 26, 27 defines an open space to accommodate and surround the lower arm of the user, from the wrist to the rearward end of the device" (Ans. 6). The dashed lines in the marked up version of Stephens' Figures 3 and 4 (*see* FF7) "show how the Examiner interprets Stephen's Figures" (Ans. 12).

Principles of Law

"To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently." *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

During examination, the PTO must interpret terms in a claim using "the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

In addition, "[t]he ordinary and customary meaning of a claim term may be determined by reviewing a variety of sources. Some of these sources include the claims themselves; dictionaries and treatises; and the written description, the drawings, and the prosecution history." *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 (Fed. Cir. 2003) (citations omitted).

Analysis

Independent claims 1, 18, and 33 require, among other things, a handle with a band-like, rearwardly-extending continuous helical element that defines a substantially complete revolution about an open space.

The Examiner's position is that Stephens describes a handle with all of the elements required by the claims, including the band-like continuous helical element.

Appellants contend that "Stephens does not disclose any component that can reasonably be considered as being a continuous helical element" (App. Br. 9). In particular, "[t]here is nothing helical about the shape of the upper forearm-engaging portion 65 of the 'elongated cuff 51'" (*id.*).

Appellants' argument is persuasive. Like the elongate brace of the claimed handle, Stephens' elongated cuff defines an open area capable of accommodating the forearm of a user. But the similarity between the two ends there. Where the material of Appellants' band-like elongate brace traces a continuous helix or spiral defining the shape of a cone or cylinder, Stephens' elongated cuff is essentially a cone with one opening formed in the upper rear of the cuff, and another formed in the lower front. The remaining material does not form a continuous helix. Even the dashed lines of the Examiner's markup of Stephens' Figure 4 show that an imaginary helix superimposed on Stephens' cuff would pass through the opening before making a substantially complete revolution (FF7).

Conclusions of Law

Appellants have established that the Examiner erred in finding that Stephens describes an ergonomic handle with a band-like elongate brace

extending in a continuous helix that, alone, or in cooperation with a wrist-supporting structure, defines a substantially complete revolution about an open space.

INDEFINITENESS

Issues

The first issue raised by this rejection is whether the phrase “and the like” renders claims 1, 18, and 33 indefinite when the claims are read in light of the Specification.

The second issue is whether the phrase “a pitch that decreases from forward to rearward” renders claim 37 indefinite when the claim is read in light of the Specification.

Findings of Fact

FF9 According to the Specification, the pitch of a helix “is the distance between adjacent turns of the helix measured along a line parallel to its [longitudinal] axis” (Spec. 8: 7-9).

FF10 The “helix angle” is defined as “the constant angle at which a helix cuts the elements of a cylinder or cone” (Appellants’ Exhibit B, definition retrieved from <http://www.thefreedictionary.com/p/helix+angle> on April 27, 2007).

Principles of Law

“The definiteness inquiry focuses on whether those skilled in the art would understand the scope of the claim when the claim is read in light of the rest of the specification.” *Union Pacific Resources Co. v. Chesapeake Energy Corp.*, 236 F.3d 684, 692 (Fed. Cir. 2001).

Analysis

Claims 1, 18, and 33 are directed to an ergonomic handle capable of releasable attachment to “a tool or the like.” According to the Examiner, “the phrase ‘or the like’ render[s] the scope of the claim[s] indefinite” (Ans. 4).

The term “or the like” is essentially meaningless when read in combination with the already broad term “tool,” and when read in the context of the claims and the Specification. The term “or the like” may be superfluous, but it does not prevent one of skill in the art from understanding the scope of the ergonomic handle claimed.

As for claim 37, the Examiner is correct in noting that the pitch of a helix is defined as the distance between adjacent turns (Ans. 4-5; FF9), but the helical brace of the claimed handle makes only a single turn. Moreover, Appellants acknowledge that it is “more appropriate to refer to the changing characteristic of the single turn [made by the helical brace] by referring to a changing helix angle, rather than a changing pitch” (App. Br. 6). However, we find that when the claim is read in light of the Specification, one of skill in the art would understand that a pitch that decreases from forward to rearward corresponds to a helix angle that increases from forward to rearward (*id.*), even in a helix that makes only a single turn.

Conclusions of Law

The phrase “and the like” does not render claims 1, 18, and 33 indefinite, nor does the phrase “a pitch that decreases from forward to rearward” render claim 37 indefinite, when the claims are read in light of the Specification.

SUMMARY

- We reverse the rejection of claims 1-3, 6-10, 12-14, 17-20, 23-26, 28-30, and 33-41 under 35 U.S.C. § 102(b) as anticipated by Stephens.
- We reverse the rejection of claims 1, 18, 33, and 37 under 35 U.S.C. § 112, second paragraph, as indefinite.

REVERSED

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